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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,267	03/17/2004	Peter Poechmueller	2001 P 08978 US	4209

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EXAMINER

WILLIAMS, HOWARD L

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/802,267	Applicant(s) POECHMUELLER, PETER	
	Examiner Howard L. Williams	Art Unit 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 25-31 is/are rejected.
- 7) ☒ Claim(s) 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim 25 is objected to because of the following informalities: It depends from a cancelled claim. Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 11-22, 25 and 27 are rejected under 35 U.S.C. 102(e) as anticipated by Borkar et al. (US 6538,584 B2). Borkar discloses data bus encoding to control the transitions and provide "secure" communication by compare the previous and current words to determine the number of transitions. If the threshold is exceeded the bits of the current word are inverted by the encoder (68; fig. 5) and sent to the drivers (72; fig. 3). An indicator bit is represented by the additional data line "X" in the "N+X" expression.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 22, 23, 26, 28, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogin (US 6,584,526 B1). Bogin discloses a bus encoding system which examines the bits of the current word and determines whether the

number of bits of a first logical state or a second logical state exceed a threshold. Bogin's threshold is a ratio of 50%. If more than half the bits are determined to be active, the inversion control (and indicator) is asserted and the data word is inverted. Indication of this change is communicated to the receiving in by line 19 in figure 1. Bogin does not disclose the threshold as two-thirds of the total number of bits; however, it is noted that the specific ratio selected is disclosed by applicant to be arbitrary (page 15 penultimate line). Accordingly, the selection between one-half as disclosed by Bogin and the two-thirds ratio disclosed by applicant is seen as a matter of design choice.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakamura et al. in the IEEE article A 500-MHz 4-Mb CMOS pipeline-burst cache SRAM with point-to-point noise reduction coding I/O and Stan et al. in the IEEE article Bus-Invert Coding for Low-Power I/O disclose a bus inversion systems.

Applicant's response filed 23 September 2005 has been fully considered but is not persuasive. As recognized in the remarks filed with the amendment at the bottom of Page 10 of 15 Bogin is configured to invert at least one bit. The claims do not appear to contain language limiting the number of inverters. Regarding the remarks to Borkar, it is noted that Borkar discloses dividing the data word into groups which are independently controlled and the groups of $N/2$ have their own signaling bit. This would clearly limit the maximum number of data word bits inverted to at most 50%. Again the claim does not appear to contain any clear limitation to limit the number of inverters to less than the full number of bits for a word or group being handled.


Claim 30 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard L. Williams at telephone number (571) 272-1815.

11/1/05
Voice: (571) 272-1815


Howard L. Williams
Primary Examiner
Art Unit 2819